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FINANCES, TRAFFIC, AND THE COMPREHENSIVE PLAN
-POTENTIAL ALTERNATIVE DEVELOPMENTS; A PHASE II REPORT

A Study of Government Revenue and Daily Trip
Generation Impacts of Various Alternative
Potential Developments

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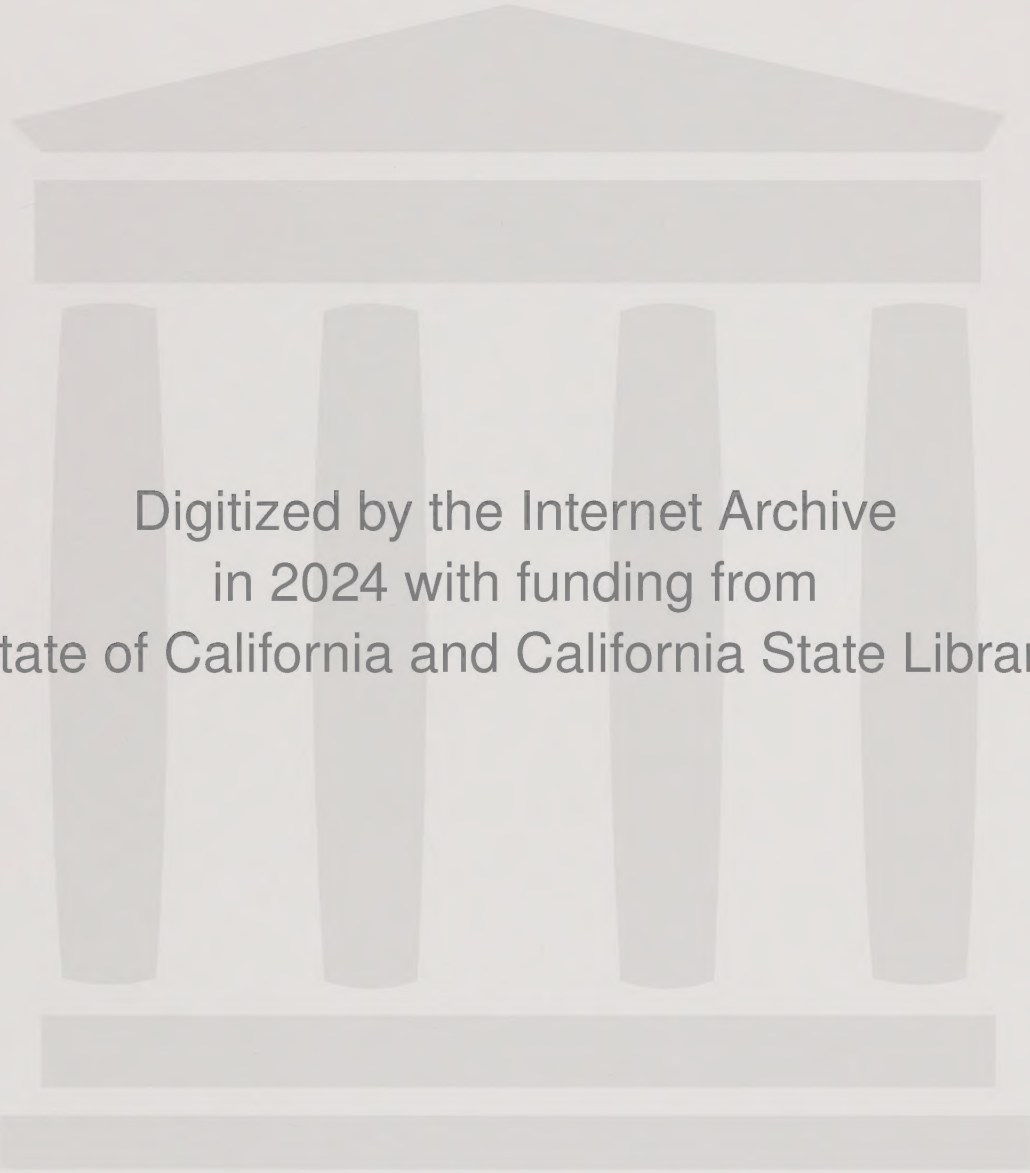
CITY OF MENLO PARK

January 1935

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Executive Summary

The City of Menlo Park asked PMC and Associates to study the impact on City government revenues and traffic in the Central Area of the City. The specific areas designated for this study were both sides of El Camino Real, the north side of Oak Grove Avenue and the south side of Menlo Avenue between University Drive and El Camino Real. This assigned area was divided into six general study areas and then 27 special study areas. (see attached maps) Using the City's zoning ordinance, a total of 101 alternative developments were calculated for these areas. City government revenue and daily trip generations were estimated for the existing uses and the alternatives.

Findings

(1) The estimated current annual City governmental revenue from the 27 special study areas is \$184,499. The estimated daily trip generation is 13,067 ADT.

(2) In order to maximize City government revenue, it would be necessary to emphasize mixed housing/office development on Oak Grove Avenue and Menlo Avenue and intensive retail on El Camino Real. This type of development would increase revenue by approximately \$100,000 per year (+54%). This would also increase daily trip generation by 10,000 (+77%).

(3) In order to minimize traffic impacts, it would be necessary to emphasize multifamily on Oak Grove Avenue and Menlo Avenue and regular retail and/or offices with surface parking on El Camino Real. This type development would reduce daily trips by approximately 3200 (-24%). It would also reduce revenue by approximately \$16,000 (-9%). The principle reason

for the reduction in traffic is that all retail and office options except on the west side of El Camino Real between Menlo Avenue and Oak Grove Avenue have been calculated with required parking.

(4) Not included in the above calculations was the alternative of an auto dealer on the east side of El Camino Real between Glenwood Avenue and Encinal Avenue. This option would increase revenue by an additional \$90,000 and would not increase the current daily trip generation.

(5) Office development with either surface or underground parking produces less daily trips than either regular or intensive retail. Office development does increase daily trip generation when compared to multi-family on the same site. In order to reduce this traffic impact to be equivalent to multifamily, it would be necessary to reduce the allowable square footage for offices by 26%.

(6) The following are comparisons of the revenue and traffic impacts of various developments when compared to other types of developments.

	<u>Traffic</u>	<u>Revenue</u>
A. Two story multi-family	100%	100%
vs offices with surface parking	130	70
vs regular retail*	380	260
vs mix multifamily and office		
with surface parking	240	160

*Assumes typical mix of retail uses now found along El Camino Real

B. Offices with surface parking	100%	100%
vs offices with underground		
parking	170	150

	<u>Traffic</u>	<u>Revenue</u>
C. Regular retail	100%	100%
vs intensive retail*	170	120
vs auto dealership	60	420
vs mix with office with surface parking	220	180
vs mix with multi-family	150	160

*Similar to type retail in Victoria Lane or Menlo Station

(7) Summary of findings:

- Multifamily - moderately good revenue, lower traffic and adds housing.
- Multifamily/office mix - good revenue, moderate traffic and adds housing.
- Regular retail - high revenue, high traffic but increase in revenue higher than traffic increase when compared to intensive retail.
- Retail/multi-family mix - revenue increase higher than traffic increase and adds housing.
- Auto dealership - very high revenue and low traffic.
- Offices - higher traffic increases than revenue increases.

(8) Recommendations:

A. North side Oak Grove Avenue and south side Menlo Avenue between University Drive and El Camino Real (General Study areas I and II)

- Emphasize multi-family residential or mixed multifamily/office projects with office development floor areas reduced by 26% of allowable in order to keep traffic equivalent to residential.

B. West side of El Camino Real between Harvard Avenue and Menlo Avenue
(General study area III)

- Combination of regular retail and offices with surface parking.

Retail will generate revenue while office would provide lower traffic generation.

C. West side El Camino Real between Menlo Avenue and Oak Grove Avenue
(General Study area VI).

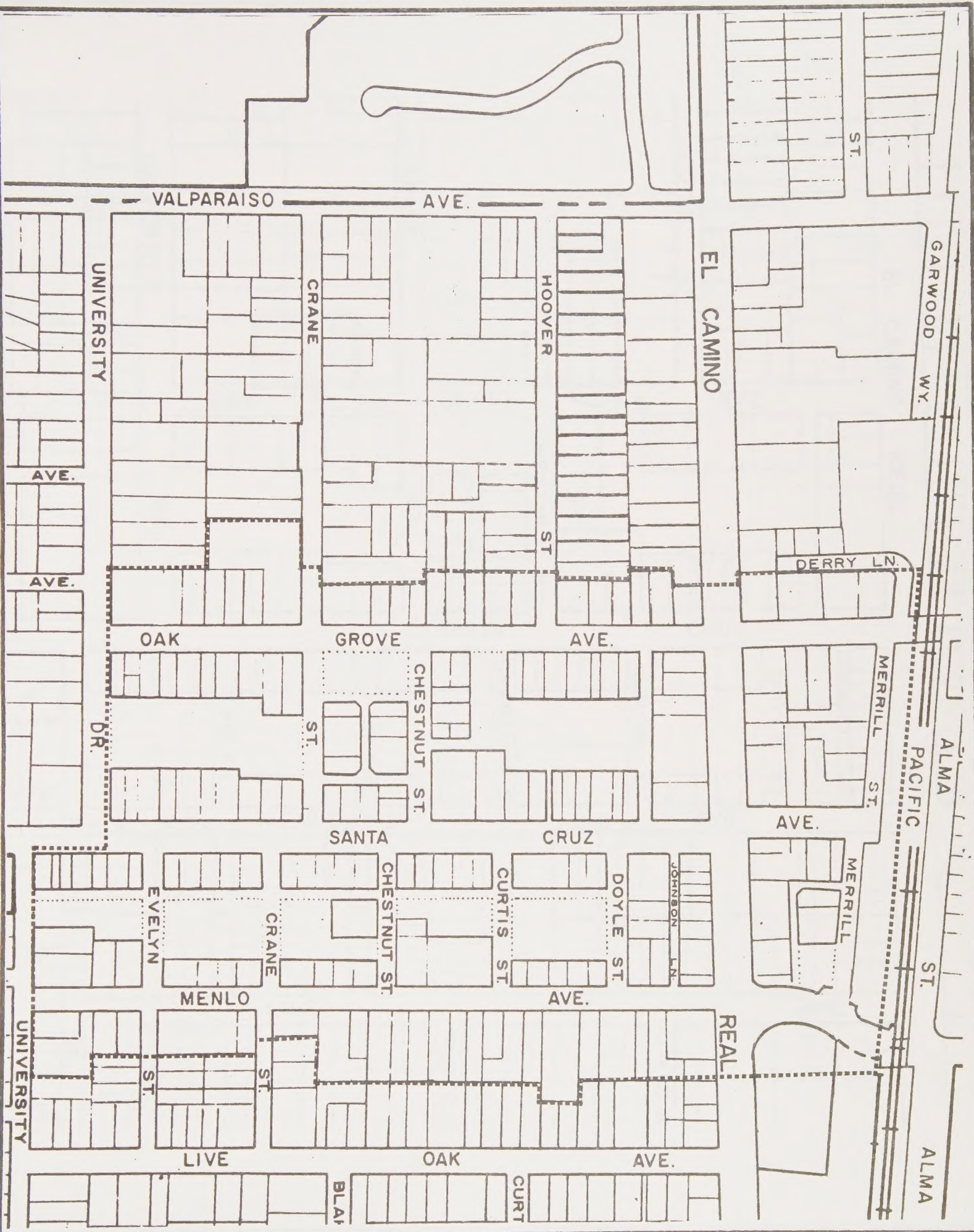
- No change. All alternatives studied did not make significant change in either revenue or traffic generation.

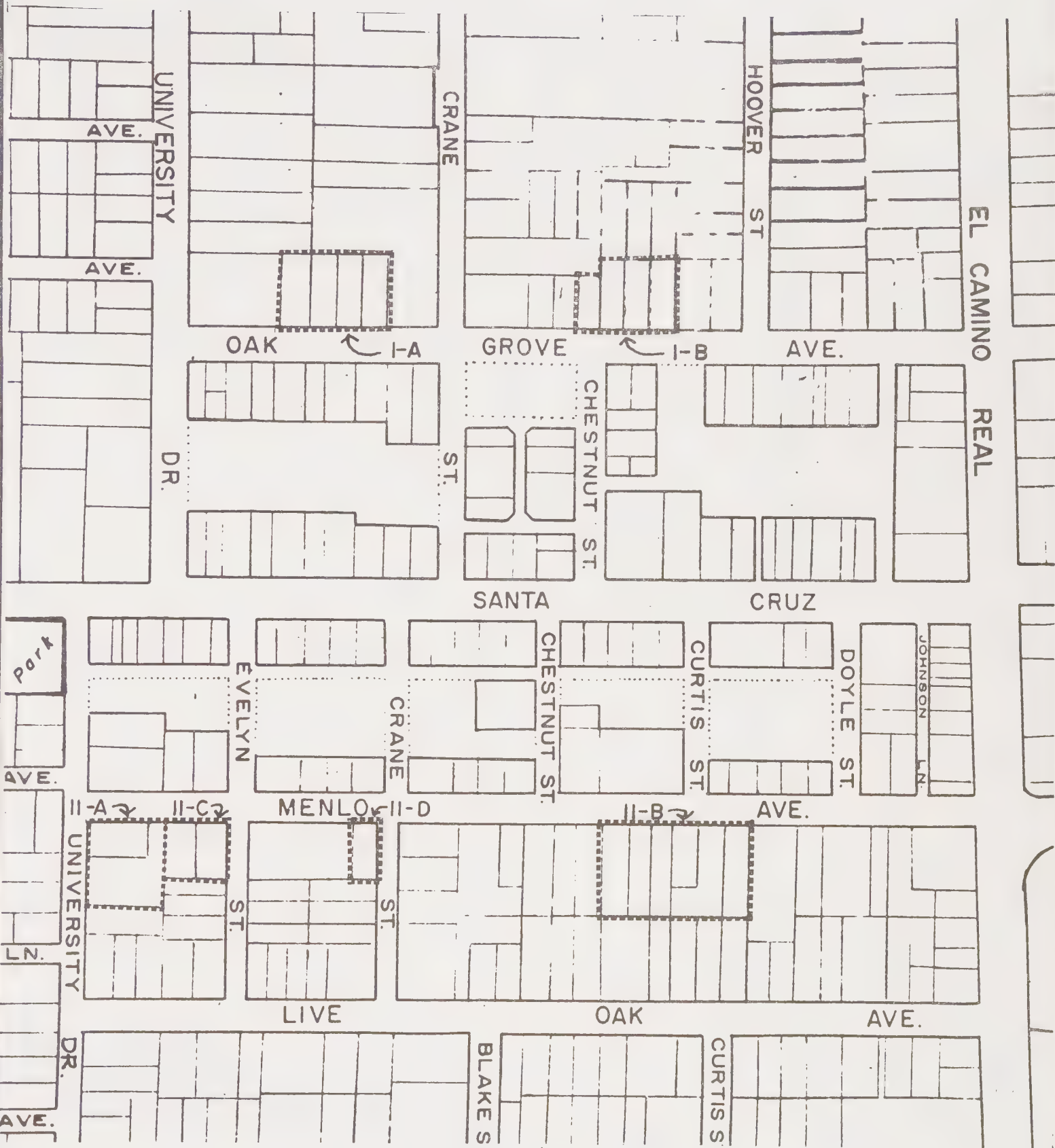
D. West side El Camino Real between Oak Grove Avenue and Valparaiso Avenue (General Study area IV).

- Mixed retail/office/multi-family if sites can be developed that are large enough.

E. East side El Camino Real between Santa Cruz Avenue and Encinal Avenue
(General Study area V).

- Between Santa Cruz Avenue and three lots north of Oak Grove (Study Areas VA and B) Intensive retail with the elimination of one or both service stations at intersection of Oak Grove Avenue.
- Three lots south of Glenwood Avenue (Study area VC) No change.
- Eight lots between Glenwood Avenue and Encinal Avenue (Study area VD) Auto dealership with multifamily.







School

VALPARAISO AVE.

CRANE

HOOVER

ST

OAK

GROVE

CHESTNUT

ST.

AVE.

SAN ANTONIO

ST.

GLENWOOD

GARWOOD WY.

555
Glenwood Ave.

DERRY LN.

MERRILL

AL

GARWOOD WY.

SOUTHERN

AVE.

MILLS

ST.

V-D-2

V-D-1

V-C-2 EL

CAMINO IV-B REAL

V-B-3 IV-A

V-C-1

V-B-1

V-B-2

STUDY AREA IV & V



No Scale



I. Introduction and Assignment

The City of Menlo Park is an attractive, mature mid-Peninsula community. Its location adjacent to Atherton, Palo Alto and Stanford University has helped sustain the City as an attractive place to live and shop. Historically the Central Business District has been a strong trading center for the community. However, the Stanford Shopping Center has provided strong competition for Menlo Park. In recent years the merchants and the City have cooperated to physically improve the Central Business District and many stores have upgraded their line of goods to compete with Stanford Shopping Center.

At the same time, the City has received numerous development proposals for offices, housing, hotels and retail stores in the larger Central Area (generally defined as both sides of El Camino Real through the entire city and including an area from the Southern Pacific Railroad tracks to University Drive between the southern limits of the City at San Francisquito Creek to Valparaiso Avenue). Major projects completed over the past five years include the Stanford Park Hotel, the Menlo Station office-retail complex, the 1000 El Camino Real office building on City-owned land, and the Victoria Lane retail and office complex. A 15,839 square foot office-residential mixed use project is under construction on Oak Grove. An office-residential mixed use project at the old School District Office site on Glenwood has been proposed and an 18,000 square foot office project at El Camino Real and Encinal Avenue was approved.

The magnitude and the pace of development has generated serious concerns about the impact of additional traffic at the congested interesections in the Central Area. At the same time, however, the City recognizes the vital

role that Central Area tax revenues pay in supporting the services that residents expect from their city.

The Assignment

The City asked PMC Associates to address the revenue and traffic impacts of development in the Central Area. Specific analysis was requested of both sides of El Camino Real (excluding the one block at El Camino Real and Ravenswood Avenue for which a special study is underway), the north side of Oak Grove Avenue and the south side of Menlo Avenue between University Drive and El Camino Real. The City asked for information which would enable the staff, Commissions and City Council to quickly analyze and respond to the types of development likely to be proposed during the next five years. Specific types of development to be evaluated include:

- Intensive retail development similar to Victoria Lane or Menlo Station.
- Smaller scale, less intensive retail projects similar to existing, older development along El Camino Real (referred to as regular retail).
- New auto dealerships.
- Office development similar to recent proposals on Menlo Avenue and other Central Area locations.
- Housing proposals emphasizing small sized units for retired or moderate income adults.
- Mixed use projects for residential, office and/or retail uses.

The analysis was to include examination of the impact of current city regulations and policies on potential tax revenues, parking and traffic.

II. PROCEDURE AND METHODS

The task of anticipating revenue and traffic needs from types of future development was organized into five steps outlined below:

1. Analysis of existing data

a. All sources of revenue, development, traffic and parking information were updated to revise the formulas for estimating sales and other tax sources in Menlo Park. In particular, estimated sales tax revenues per square foot were updated for more than 60 individual types of retail stores. The tax generation information included 1984 property tax assessments, estimates of revenues for sales tax, business licenses, utility fees, hotel occupancy and motor vehicle registrations. Sales tax revenue estimates included sales in retail stores, retail purchases by residents in new Central Area housing projects and retail purchases by employees in new Central Area offices.

b. Traffic data was revised. (See Section III)

c. Estimates of current tax revenues and traffic generation were prepared for each of the study areas where new development was anticipated.

2. Identify potential for development

a. City zoning regulations and policies were reviewed to understand the potential for development on each parcel according to the code reflecting current city policies toward development.

b. Current city services and facilities were examined to determine what additional services or facilities might be needed to serve new projects. EIR's from recent projects in the Central Area

were reviewed to identify types of proposals that have been made and their projected impact on services and facilities. The major problems identified were traffic and parking. Some problems of sanitary sewer lines being at or above capacity along Glenwood and Oak Grove were identified.

c. All the properties along the street frontages were reviewed to identify which ones would be the most likely to be acquired by the private market for future clearance and rebuilding. In making the evaluation, attention was paid to the ratio of building values to land values shown on the County Assessor records. Many of the parcels were found to have buildings valued at little more than the value of the land--an important signal to a developer that more intensive development might be sustained. Twenty-seven potential rebuilding sites (called Study Areas) were identified. City staff confirmed that a number of these sites had already been discussed with developers interested in rebuilding. This finding indicated that the analysis was identifying the areas most likely to be changed.

d. A number of developers were contacted who have current retail or mixed use projects in the City to gain their insights about likely sites where development might be proposed and the types of new development that might be attractive to developers at these locations (See Section IV).

3. Potential development projected for each study area.

a. Standards for development based on city regulations and policies were formulated for each of the 101 alternatives.

- b. The alternatives for development appropriate to each study area were calculated along with the estimated revenue and traffic impacts.
- c. Overall implications of city regulations and development policies on revenue and traffic under various types of development were identified and summarized.
4. Summarize overall impacts according to possible development strategies. The cumulative effects on taxes and traffic generation from alternative development projects were summarized for four possible city development strategies:
- Maximize city revenues (emphasis on intensive retail stores and mixed uses)
 - Minimize traffic (emphasis on multifamily, offices and regular retail)
 - Maximize white collar employment (emphasis on office)
 - Maximize housing (emphasis on small sized housing units)
5. Identify areas for action

A few cases were identified where specific development opportunities suggest special city attention:

- Parcels on east side of El Camino Real north of Glenwood (study area V-D). New autodealerships or residential mixed use project with office and/or retail stores?
- Parcels on west side of El Camino Real between Oak Grove and Valparaiso on both sides of the movie theater (Study areas IV A and B) Housing in mixed use with retail or offices?
- Parcels at corner on west side of El Camino Real and Roble Avenue (Study area IIIE). New development similar to Victoria Lane on the other side of Roble Avenue?

- Parcels at corner of University Dr. and Menlo Avenue (Study area IIA)
Combine relocation of existing apartment house with parking
for supermarket across Menlo Avenue?

III. TRAFFIC IMPACT ANALYSIS

A central concern to the City of Menlo park is the operation of the street system and the need to reduce traffic congestion. One of the most important potential impacts which new development may have on the central area of the City is to add to already existing traffic congestion. Current traffic conditions are not good at several Central Area street intersections with peak hour service levels reaching as low as E and F. While new development or redevelopment does not necessarily mean additional trips generated in the Central Area, it is important to gain an understanding of just what kind of traffic impact any particular development could have in order to avoid adverse impacts on traffic flows.

The approach to determining the relative impact of new development is based on several factors:

1. Comparison of trip generation between the existing use of each potential development site and the new use of that site.
2. A review of the existing traffic service levels at the intersections in the vicinity of each site.
3. A qualitative analysis of the impact that the changed trip generation would have on street operations in the area of the proposed new development sites.
4. Assumption that traffic mitigation measures will be used.

Trip Generation

Existing vehicle trips are determined for the entire study area for daily, midday peak hour and afternoon peak hour conditions using standard trip generation factors developed by Caltrans, District 4 in San Francisco and the Institute of Transportation Engineers. These factors are applied to the inventory of existing uses in the study area to produce total daily and peak hour trips.

A comparison of daily trip generation for existing uses and for each alternative proposed for each study area site is shown on Table 3, p. 39. From Table 3 it is clear that with new or redevelopment the trips generated in the Central Area of the City could be increased by as much as 77% over existing levels, or be reduced by 24% from current trip generation depending on which set of alternatives is considered from among all of those studied.

Existing Traffic Conditions

The Menlo Park Public Works Department has extensively documented the existing conditions at all major intersections in the City. Several of the more important intersections in the Central Area of the City along El Camino Real have been selected as examples of typical conditions existing in the project study area.

The efficiency of City street intersections is graded in terms of their ability to move traffic with a minimum of delay. Intersections which cause motorists a minimum delay are assigned a letter grade of A or B. Heavily congested intersections typically achieve a grade of E or F. The greatest delay usually assumed acceptable to the average motorist occurs at Level of Service D. Most jurisdictions select Service Level D as the lowest acceptable from a policy setting perspective.

The existing volume to capacity (V/C) ratios and Level of Service (LOS) for several intersections is shown on Table 1.

Table 1
Existing Traffic Conditions

Intersection	1982/83 Conditions		1982/83 Plus Approved Projects	
	V/C Ratio	LOS	V/C Ratio	LOS
El Camino Real with Cambridge Ave.	0.83	D	0.83	D
Middle Ave.	1.09	F	1.15	F
Ravenswood Ave.	.99	E	1.08	F
Oak Grove Ave.	.83	D	0.89	D
Glenwood Ave.	.80	D	0.83	D

Source: City of Menlo Park, Department of Public Works, Intersection Traffic Analysis, May 1984.

The Middle Ave. and Ravenswood Ave. intersections with El Camino Real are already operating below the usually accepted minimum of service level D so any increase in trip generation in the vicinity of these intersections would make the existing bad situation even worse unless some increase in these intersections' ability to handle traffic were made.

Impacts on Street Operations

Based on the existing conditions described above it is clear that new developments should not increase trips in the area of El Camino Real near Middle Ave. or Ravenswood Ave. unless capacity is added to these intersections. This means that study areas IIIA, IIIB, IIIC, IIID, IIIE, IIIF, and IIIG should be reviewed with particular care in terms of their trip generation potential. Of the alternatives studied, only those proposed for regular retail (alternative 1) in study areas IIIB1, IIIB2, IIID, office use (alternatives

3 and 4) for study areas IIIA, IIIB1, IIIB2, IIIC, IIID, IIIE and all alternatives for study areas IIIF and IIIG would reduce trip generation and thus be a positive impact on the current condition. Should any other alternative be considered, methods to mitigate its traffic impact should be assumed as a mandatory requirement in order to get City approval.

A second intersection very close to dropping below the usually accepted standard service level D is El Camino Real at Oak Grove Ave. This means that development on study sites IA, IB, IVA, IVB, VA, VB and VC should also be reviewed with care to assure they would not reduce service level at this location to the unacceptable level.

IV RESULTS OF INTERVIEWS

The developer's view of the market for development and of regulations applying to retail, office and mixed use projects provided important insights for the study. Four developers were contacted who have recently completed or have these types of projects underway now. The findings of the interviews are summarized below:

A. Mixed Use Projects

1. Residential component

a. The market is primarily two types:

- Young single or two income couples--mostly employed nearby in service industry professions. Typical income near \$50,000.
- Retired persons who want to live close to downtown, do less driving and have secure surroundings

b. Very few children in these type of projects. Families that do have children tend to live in ground level units, not units on second level decks over parking.

- c. Average occupancy is only 1.25 adults per dwelling unit.
- d. Security is enhanced by the fact that there are people in the complex day and night.
- e. Flexibility can be built into the unit designs so that a 2 bedroom/2 bath unit can be changed into two 1 bedroom/1 bath units.
- f. Need at least 50% of the space in landscaping--on the ground and on the decks--to get a strong residential feeling in the living areas.

2. Retail and Office components

- a. Have to screen potential users carefully to ensure compatibility among retail-commercial users and with residential users

- Time of operations (e.g., no evening hours)
- Smells (e.g., no restaurants--except small scale deli's)
- Noise (e.g., no day care centers)
- Parking (e.g., low trip generators, no restaurants or medical offices)

- b. Potential conflicts between types of retail and office uses.

Dual use of parking space is an advantage but heavy retail activity can disrupt offices that need a quiet environment. However, other offices such as realtors can benefit from bustling retail activities. It was also noted that retail users require much more management overhead and maintenance work than offices.

3. Parking and Trip Generation

- a. Use 25% shared spaces between residences and office or retail uses. Assign one space per residential unit. Have residents

share unassigned spaces with other project users and visitors.

One developer recommends assigning one space for each 600 sq. ft. of residential space rather than two spaces per dwelling unit.

b. People who move to a project to be close to downtown probably will do less driving for casual errands.

4. Financing

a. Often hard to get lenders support for initial project but once first one is built, little further convincing is required to get support for additional projects.

b. One developer's criteria for a successful office-residential project:

- 25% shared parking
- Use of mortgage revenue bonds to offer 10-10½% financing on homes
- Keep costs of the first floor parking pad under \$15/sq. ft.

This calculation is based on the following broad allocation of project costs:

- 50% for building construction
- 17% for land
- 17% for "soft costs" (architectural fees, construction financing, environmental reports, regulatory delays)
- 17% for taxes and profits

Usually a project can be financially feasible if can get, 1.0

Floor Area Ratio (FAR) (building space equal to land space)

B. Retail Development

1. "Destination Stores"

Both retail developers agree that retail development along El Camino Real has to be primarily "destination stores" that bring in their own customers. Thus far there is very little walk-in trade from the new office buildings, the new hotel, the Safeway-Payless complex or from Santa Cruz Avenue pedestrians. The mix of merchants along El Camino Real may affect this. Pedestrian traffic may also be affected by lack of traffic signal on El Camino Real next to Menlo Station and Victoria Lane. (Note: a traffic signal has been required at this location)

2. Stanford Shopping Center is the Competition

Both developers agree that Stanford Shopping Center is the principal competition. Downtown Palo Alto has too many parking problems and "most people in Menlo Park and Atherton won't go north (to Redwood City) to shop."

3. No relocation from downtown Menlo Park

The new stores in both retail centers all expanded or relocated into the projects from locations outside Menlo Park. Two stores moved from Stanford Barn which is near but not a part of Stanford Shopping Center. Kepler's Books relocated within the Victoria Lane complex.

4. Different Approaches in Two Retail Complexes

a. Menlo Station carefully recruited high volume, off-price, well managed chain outlets. They sought stores who were strong

advertisers with resources to sign ten year leases at rates 30-50% above downtown Menlo Park. Their developer notes a trend toward larger stores, with stores up to 9,000 sq. ft in their complex.

b. Victoria Lane was a "pride of ownership" project as much as a successful business venture. The owner deliberately sought smaller scale, high quality shops that would complement each other. There is only one major chain in the complex. The leases typically run three to five years. A useful linkage has developed in the evening between the book store and the coffee house--which is reinforced by movie theater patrons who use the parking lot and visit the shops. Parking has been at a minimal standard but not a serious problem so far.

E. Observations Concerning Future Development

1. Land prices along El Camino Real are now running \$15-20/sq. ft.*
2. Sites on the west side of El Camino Real may be too shallow for substantial new developments. One developer prefers 200 foot depth sites and a minimum of two acres for a project.
3. Residential development close to El Camino Real must deal with the serious level of noise from the street (which exceeds 70 CNEI for up to 40-50 feet back from the right of way line). Under this condition reasonably quiet residential units and living spaces are difficult to provide--even with heavy soundproofing.

*Now estimated by others to be as high as \$25-30 per square foot.

Appendix

Calculations of Alternatives for Development in 27 Special Study Areas

Menlo Park
V. A. Comparison of estimated annual government revenues
and estimated daily trip generation for alternatives
within study areas

Study Areas	Location	Est. annual govt. rev. current	alternatives		Est. current daily trip generation	alternatives	
			minimum govt. rev.	maximum govt. rev.		minimum D.T.G.	maximum D.T.G.
I	North side Oak Grove Ave. between University Ave. and El Camino Real	\$ 1874	\$ 2964	\$ 9043	72	231	555
II	South side Menlo Ave. between University Ave. and El Camino Real	4735	5086	14788	210	285	909
III	West side El Camino Real between Creek and Menlo Ave	57004	10431	52619	3568	898	4235
IV	West side El Camino Real between Oak Grove Ave. and Valparaiso Ave.	14386	15745	32546	1106	922	2827
V	East side El Camino Real between Santa Cruz Ave. and Encinal Ave.	65148	61435	173007	4008	2873	6538
VI	West side El Camino Real between Menlo Ave and Oak Grove Ave.	48274	58154	97097	4103	4105	8130
Total		\$191,421	\$153,815	\$379,100	13,067	9,314	23,194

Menlo Park Development Alternatives

I. General Area

North side Oak Grove Avenue between University Avenue and El Camino Real
Street frontage: 1250 ft.
Land area: 312,000 sq. ft.
Current annual govt. rev: \$3,510
Rev/front foot: \$6.70
Rev/1000 sq. ft: \$26.83

Study area IA

Four lots with single family houses between University Drive and Crane Street
APN 71-091-220/250
Land area: 26,552 sq ft
Assessed value land: \$176,883
imp: \$112,971
Current annual govt. rev: \$914
daily trip generation: 36

Alternative IA-1

Two story multifamily
max. building area: 11,948 sq ft
max. dwelling units: 17
max. parking spaces: 34
annual govt. rev: \$2819
daily trip generation: 112

Alternative IA-2

Mixed residential/offices: 3 stories with offices on ground floor
max building area: office 10,621 sq ft
res 11,948 sq ft
max dwelling units: 17
max parking spaces: 58

annual govt. rev: \$4443
daily trip generation: 271

Alternative IA-3

Office with surface parking
max building area: 10,090 sq ft
max parking spaces: 40
annual govt. rev: \$1087
daily trip generation: 151

Alternative IA-4

Office with underground parking
max building area: 17,259 sq ft
max parking spaces: 69
annual govt. rev: \$2665
daily trip generation: 259

Study Area IB

Description: 4 single family lots between Crane Street and Hoover Street
APN #71-093-200 plus 71-101-250/270
land area: 27,583 sq ft
Assessed value: land \$186,506
 imp \$141,748
current annual govt. rev: \$960
daily trip generation: 36

Alternative IB-1

Two story multifamily
max building area: 12,412 sq ft
max dwelling units: 18
max parking spaces: 36
annual govt. rev: \$2960
daily trip generation: 119

Alternative IB-2

mixed residential/office
max building area office: 11,033 sq ft
 res: 12,412 sq ft
max dwelling units: 17
max parking spaces: 60

annual govt. rev: \$4600
daily trip generation: 284

Alternative IB-3

office with surface parking
max building area: 10,482 sq ft
max parking spaces: 42
annual govt rev: \$1877
Daily trip generation: 157

Alternative IB-4

office with underground parking
max building area: 17,929 sq ft
max parking spaces: 72
annual govt. rev: \$2743
Daily trip generation: 269

II. General area

South side Menlo Avenue between University Drive and El Camino Real

Street frontage: 1500 ft
land area: 219,000 sq ft
annual govt rev: \$16,440
Rev/front foot: \$10.96
Rev/1000 sq ft: \$75.07

Study area IIA

The lot on the southeast corner of Menlo Avenue and University Drive presently containing one single family building and one multi-family building APN # 071-274-010/020
Land area: 24,491 sq ft
Assessed value land: \$775,000
imp: \$326,000
Current annual govt. rev: \$2323
Daily trip generation: 62

Alternative IIA-1

Parking lot only
government revenue: \$329
Daily trip generation: N/A

Alternative IIA-2

Parking lot with two story multifamily above
max building area: 11,021 sq fr
max dwelling units: 16
max parking spaces: 36
current annual govt. rev: \$2629
Daily trip generation: 106

Alternative IIA-3

Mixed first floor office + 2 story multifamily (no parking lot)
max building area: office 9,796 sq ft; res 11,021 sq ft
max dwelling units: 16
max parking spaces: 56
annual govt. rev: \$4182
Daily trip generation: 253

Alternative IIA-4

2 story office building w/surface parking
max building area: 9,307 sq ft
max parking spaces: 37
annual govt. rev: \$1919
Daily trip generation: 140

Alternative IIA-5

2 story office building w/underground parking
max building area: 15,919 sq ft
max parking spaces: 64
annual govt. rev: \$2695
Daily trip generation: 239

Alternative IIA-6

keep existing 8 unit multi-family unit (1.5 adults per unit)
needed parking spaces: 16
annual govt. rev: \$1494
Daily trip generation: 52

Study area IIB

A six lot area between Crane Street and El Camino Real containing one vacant lot, three offices (converted single family buildings) and two single family buildings. APN 71-288-080/130
Land area: 47.952 sq ft
Assessed value land: \$297,645
imp: \$164,144
current annual govt. rev: \$1383
Daily trip generation: 82

Alternative IIB-1

2 story multifamily
max building area: 21,578 sq ft
max dwelling units: 31
max parking spaces: 62
annual govt. rev: \$4996
Daily trip generation: 205

Alternative IIB-2

2 story office building w/surface parking
max building area: 18,222 sq ft
max parking spaces: 73
annual govt. rev: \$3430
Daily trip generation: 272

Alternative IIB-3

Office with underground parking
max building area: 31,169 sq ft
max parking spaces: 124
annual govt. rev: \$4439
Daily trip generation: 468

Alternative IIB-4

office on first floor plus 2 story multifamily
max building area: offices 19,181; res. 21,578
max dwelling units: 31
max parking spaces offices: 104

annual govt. rev: \$7887
Daily trip generation: 493

Study area IIC

Two lots with office buildings between University Drive and Evelyn Street APN 71-274-030/40
land area: 13,104 sq ft
assessed value land: \$77,617
imp: \$86,403
current annual govt. rev: \$790
Daily trip generation: 50

Alternative IIC-1

Two story multifamily
max building area: 5897 sq ft
max dwelling units: 8
max parking spaces: 16
annual govt. rev: \$1377
Daily trip generation: 53

Alternative IIC-2

Three story multifamily and office w/underground parking
max building area office: 5,242 sq ft
res: 5,897 sq ft
max dwelling units: 8
max parking spaces: 28
annual govt. rev: \$2081
Daily trip generation: 132

Alternative IIC-3

office w/surface parking
max building area: 4980 sq ft
max parking spaces: 20
annual govt. rev: \$854
Daily trip generation: 75

Alternative IIC-4

office w/underground parking
max building area: 8,518 sq ft
max parking spaces: 34
annual govt. rev: \$1494
Daily trip generation: 128

Study area IID

Single lot with duplex at corner of Menlo Ave and Crane Street, APN 710282-040
land area: 5,460 sq ft
Assessed value land: \$24,844
Imp: \$31,934
Current annual govt. rev: \$239
Daily trip generation: 16

Alternative IID-1

two story multifamily
max building area: 2457 sq ft
max building units: 4
max parking spaces: 8
annual govt. rev: \$638
Daily trip generation: 27

Alterantive IID-2

office w/surface parking
max building area: 2,075 sq ft
max parking spaces: 8
annual govt. rev: \$473
Daily trip generation: 31

III General Area

West side El Camino Real between Creek and Menlo Avenue

Street frontage: 3500 ft
land area: 600,000 sq ft
annual govt. rev: \$255,180
rev/front foot: \$72.91
rev/1000 sq ft: \$425.30

Study area IIIA

two lots (motel and doctors office) between Harvard Avenue and Cambridge Avenue APN 071-433-140 and 330
land area: 12,173 sq ft
assessed value land: \$159,075
imp: \$207,762
current govt. rev: \$4167
Daily trip generation: 122

Alternative IIIA-1

retail (regular)
max building area: 3,895 sq ft
max parking spaces: 23
annual govt. rev: \$3469
Daily trip generation: 199

Alternative IIIA-2

retail (intensive)
annual govt. rev: \$4208
Daily trip generation: 335

Alternative IIIA-3

office building w/surface parking
max building area: 4626 sq ft
max parking spaces: 19
annual govt. rev: \$808
Daily trip generation: 69

Alternative IIIA-4

officebuilding w/underground parking
max building area: 7,912 sq ft
max parking spaces: 32
annual govt. rev: \$1273
Daily trip generation: 119

Study area IIIB-1

two lots of retail stores and restaurant between Cambridge Avenue
and Partridge Avenue APN 071-413-360 and 200

land area: 26,637
assesses value land: \$305,417
imp: \$193,065
current annual govt. rev: \$7,648
Daily trip generation: 688

Alternative IIIB1-1

retail regular
max building area: 8,524 sq ft
max parking spaces: 51
annual govt. rev: \$7416
Daily trip generation: 434

Alternative IIIB1-2

intensive retail
annual govt. rev: \$9035
Daily trip generation: 733

Alternative IIIB1-3

office building w/surface parking
max building are: 10,122 sq ft
max parking spaces: 40
annual govt. rev: \$1829
Daily trip generation: 152

Alternative IIIB1-4

office building w/underground parking
max building area: 17,314 sq ft
max parking spaces: 69
annual govt. rev: \$2672
Daily trip generation: 260

Study area IIIB-2

Three lots (retail and service station) between Cambridge Avenue
and Partridge Avenue APN 071-413-170 + 200 + 360

land area: 37,267 sq ft
Assessed value land: \$475,400
imp: \$260,028
Current annual govt. rev: \$18,148
Daily trip generation: 933

Alternative IIIB2-1

regular retail
max building area: 10,645 sq ft
max parking spaces: 64
annual govt. rev: \$9,251
Daily trip generation: 543

Alternative IIIB2-2

intensive retail
annual govt. rev: \$11,308
Daily trip generation: 915

Alternative IIIB2-3

office w/surfact parking
max building area: 14,161 sq ft
max parking spaces: 57
annual govt. rev: \$2360
Daily trip generation: 212

Alternative IIIB2-4

office w/underground parking
max building area: 24,244 sq ft
max parking spaces: 97
annaul govt. rev: \$3478
Daily trip generation: 363

Study area IIIC

Three lots (auto retail, single family and spiritualist) between
Partridge Avenue and College Avenue APN 071-412-220 + 230 + 240

Land area: 14,348 sq ft
assessed value land: \$191,816
imp: \$32,484
current annual govt. rev: \$1762
Daily trip generation: 161

Alternative IIIC-1

regular retail
max building area: 4591 sq ft
max parking spaces: 27
annual govt. rev: \$4045
Daily trip generation: 234

Alternative IIIC-2

intensive retail
annual govt. rev: \$4,952
Daily trip generation: 395

Alternative IIIC-3

office w/surface parking
max building area: 5452 sq ft
max parking spaces: 22
annual govt. rev: \$1067
Daily trip generation: 82

Alternative IIIC-4

office w/ underground parking
max building area: 9326 sq ft
max parking spaces: 37
annual govt. rev: \$1589
Daily trip generation: 140

Study Area IIID

six lots (retail stores) between College Avenue and Middle Avenue
APN 071-411-200/240 plus 71-332-190

land area: 19,777 sq ft
assessed value land: \$125,116
imp: \$144,547
current annual govt. rev: \$7481
Daily trip generation: 465

Alternative IIID-1

regular retail
max building area: 6329 sq ft
max parking spaces: 38
annual govt. rev: \$5522
Daily trip generation: 323

Alternative IIID-2

intensive retail
annual govt. rev: \$6760
Daily trip generation: 544

Alternative IIID-3

office w/surface parking
max building area: 7496 sq ft
max parking spaces: 30
annual govt rev: \$1335
Daily trip generation: 112

Alternative IIID-4

office w/underground parking
max building area: 12,822 sq ft
max parking spaces: 51
annual govt. rev: \$1996
Daily trip generation: 192

Study area III E

two lots (fish market and restaurant) between Middle Avenue and Roble Avenue APN 71-332-80/90

land area: 26,190 sq ft
assessed value land: \$206,026
imp: \$115,880
current annual govt. rev: \$5142
Daily trip generation: 365

Alternative IIIE-1

regular retail
max building area: 8381 sq ft
max parking spaces: 50
annual govt. rev: \$7298
Daily trip generation: 427

Alternative IIIE-2

intensive retail
annual govt. rev: \$8930
Daily trip generation: 721

Alternative IIIE-3

office w/surface parking
max building area: 9952 sq ft
max parking spaces: 40
annual govt. rev: \$1807
Daily trip generation: 149

Alternative IIIE-4

office w/underground parking
max building area: 17,024 sq ft
max parking spaces: 68
annual govt. rev: \$2638
Daily trip generation: 255

Study area III F

five lot area (four retail plus theater) between Live Oak Avenue
and Menlo Avenue APN 71-288-210, 230, 570, 580, 590

land area: 38,651 sq ft
assessed value land: \$674,889
imp: \$286,510
current annual govt. rev: \$18,163
Daily trip generation: 1508

Alternative IIIF-1

regular retail
max building area: 12,368 sq ft
max parking spaces: 74
annual govt. rev: \$10,714
Daily trip generation: 631

Alternative IIIF-2

intensive retail
annual govt. rev: \$13,354
Daily trip generation: 1063

Alternative IIIF-3

office w/surface parking
max building area: 14,687 sq ft
max parking spaces: 59
annual govt. rev: \$2430
Daily trip generation: 220

Alternative IIIF-4

office w/underground parking
max building area: 25,123 sq ft
max parking spaces: 100
annual govt rev: \$3733
Daily trip generation: 377

Study area III G

Same as IIIF with addition of lot to west on Menlo Avenue
APN 71-288-190 added

total land area: 48,151 sq ft
assessed value land : \$723,288
imp: \$297,273
current govt. rev: \$18,555
Daily trip generation: 1522

Alternative IIIG-1

regular retail
max building area: 15,408 sq ft
max parking spaces: 92
annual govt. rev: \$13,524
Daily trip generation: 786

Alternative IIIG-2

intensive retail
annual govt rev: \$16,451
Daily trip generation: 1325

Alternative IIIG-3

Office w/surface parking
max building area: 18,297 sq ft
max parking spaces: 73
annual govt. rev: \$3054
Daily trip generation: 274

Alternative IIIG-4

office w/ underground parking
max building area: 31,298 sq ft
max parking spaces: 125
annual govt. rev: \$4454
Daily trip generation: 469

General Area IV

West side El Camino Real between Oak Grove Avenue and Valparaiso Avenue
street frontage: 1000 ft
land area: 159,000 sq ft
current annual govt. rev: \$65,380
rev/front foot: \$65.38
rev/100 sq ft: \$411.19

Study area IV A

Three lots between Oak Grove and theater
APN 71-103-80/100

land area: 29,154 sq ft
assessed value land: \$186,492
imp: \$209,690
current annual govt. rev: \$10,960
Daily trip generation: 452

Alternative IVA-1

regular retail
max building area: 9329 sq ft
max parking spaces: 56
annual govt. rev: \$8124
Daily trip generation: 475

Alternative IVA-2

intensive retail
annual govt. rev: \$9932
Daily trip generation: 802

Alternative IVA-3

mixed retail and multifamily
max building area retail: 11,662 sq ft
res: 13,119 sq ft
max building units: 19
max parking spaces: 88
annual govt. rev: \$13,009
Daily trip generation: 720

Alternative IVA-4

two story regular retail/ office w/surface parking
max building area office: 12,536 sq ft
retail: 9,329
max parking spaces: 50
annual govt. rev: \$10,220
Daily trip generation: office, 188, retail, 476; total 664

Alternative IVA-5

same w/intensive retail
annual govt. rev: \$12,028
Daily trip generation: office 188, retail, 802; total 990

Alternative IVA-6

same w/underground parking (regular retail)
max building area office: 21,866 sq ft
 retail: 13,702 sq ft
max parking spaces: 152
annual govt. rev: \$14,676
Daily trip generation: office 328, retail 699; total 1027

Alternative IVA-7

same w/intensive retail
annual govt. rev: \$17,280
Daily trip generation: office 328, retail 1178 total 1506

Study area IV B

Three lots North of theater between Oak Grove and Valparaiso Avenues
APN 71-103-40/60

land area: 27,405 sq ft
assessed value land: \$174,781
 imp: \$59,138
current annual govt. rev: \$3426
Daily trip generation: 524

Alternative IVB-1

regular retail
max building area: 8770 sq ft
max parking spaces: 53
annual govt. rev: \$7621
Daily trip generation: 447

Alternative IVB-2

intensive retail
annual govt. rev: \$9327
Daily trip generation: 754

Alternative IVB-3

mixed retail and multifamily
max building area retail: 10,962 sq ft
 res: 12,332 sq ft
max dwelling units: 18
max parking spaces: 77
annual govt. rev: \$12,205
Daily trip generation: 678

Alternative IVB-4

Two story regular retail; office w/surface parking
max building area office: 11,784 sq ft
 retail: 8,770 sq ft
max parking spaces: 90
annual govt. rev: \$9621
Daily trip generation: office 177, retail 447; total 624

Alternative IVB-5

same w/intensive retail
annual govt. rev: \$11,327
Daily trip generation: office 177, retail 754; total 931

Alternative IVB-6

regular retail; office w/underground parking
max building area office: 20,554 sq ft
 retail: 11,784 sq ft
max parking spaces: 137
annual govt. rev: \$12,737
Daily trip generation: office 308, retail 601; total 909

Alternative IVB-7

same w/intensive retail
annual govt rev: \$15,266
Daily trip generation: office 308, retail 1013; total 1321

V. General Area

East side El Camino Real between Santa Cruz Avenue and Encinal Avenue

street frontage: 2450 ft
land area: 548,000 sq ft
current annual govt. rev: \$252,660
rev/front ft: \$103.13
rev/1000 sq ft: \$461.06

Study area V A 1

Two lots (retail stores) between fast food restaurant and service station
between Santa Cruz Avenue and Oak Grove Avenue APN 610 441-90/100

land area: 13,613 sq ft
assessed value land: \$309,063
 imp: \$99,099
current annual govt. rev: \$2468
Daily trip generation: 232

Alternative VA1-1

regular retail
max building area: 4356 sq ft
max parking spaces: 26
annual govt. rev: \$3852
Daily trip generation: 222

Alternative VA1-2

intensive retail
annual govt. rev: \$4680
Daily trip generation: 375

Study area VA2 same as VA1 with addition of service station at southeast corner of Oak Grove Avenue; added APN 61-441-110

total land area: 26,935 sq ft
total assessed value land: \$631,866
imp: 134,799
current annual govt. rev: \$12,968
Daily trip generation 538

Alternative VA2-1

regular retail
max building area: 8619 sq ft
max parking spaces: 52
annual govt. rev: \$7495
Daily trip generation: 440

Alternative VA2-2

intensive retail
annual govt revenue: \$9173
Daily trip generation: 741

Study area V B 1

two lots North of service station and auto sales between Oak Grove Avenue and Glenwood Avenue APN 61-430-70/80

land area: 22,310
assessed value land: \$150,531
imp: 182,863
current annual govt. rev: \$2887
Daily trip generation: 401

Alternative VB1-1

regular retail
max building area: 7139 sq ft
max parking spaces: 43
annual govt. rev: \$6232
Daily trip generation: 364

Alternative VB1-2

intensive retail
annual govt. rev: \$7629
Daily trip generation: 614

Study area VB2 same as VB1 with addition of service station northeast corner
Oak Grove Avenue added APN 61-430-350

land area: 35,282 sq ft
assessed value land: \$261,289
imp: \$205,937
current annual govt. rev: \$13,387
Daily trip generation: 700

Alternative VB2-1

regular retail
max building area: 11,290 sq ft
max parking spaces: 66
annual govt rev: \$9785
Daily trip generation: 576

Alternative VB2-2

intensive retail
Annual govt rev: \$12,263
Daily trip generation: 971

Study area VB3 same as VB2 with addition of lot to east of service station
(Foster Freeze) added APN 061-430-040

land area: 47,282 sq ft
assessed value land: \$321,641
imp: \$210,668
current annual govt. rev: \$15,926
Daily trip generation: 1498

Alternative VB3-1

regular retail
max building area: 15,130 sq ft
max parking spaces: 91
annual govt. rev: \$13,293
daily trip generation: 772

Alternative VB3-2

intensive retail
annual govt. rev: \$16,168
Daily trip generation: 1301

Study area V C 1

one retail lot and the service station at north end of block between Oak Grove Avenue and Glenwood Avenue APN # 061-433-340/440

land area: 28,290 sq ft
current annual govt. rev: \$18,215
Daily trip generation: 858

Alternative VC1-1

regular retail
max building area: 9053 sq ft
max parking spaces: 54
annual govt. rev: \$7895
Daily trip generation: 462

Alternative VC1-2

intensive retail
annual govt rev: \$9650
Daily trip generation: 779

Alternative VC1-3

mixed regular retail plus multifamily
max building area retail: 11,316 sq ft
res: 12,730 sq ft
max dwelling units: 18
max parking spaces: 78
annual govt. rev: \$12,583
Daily trip generation: 696

Alternative VC1-4

mixed intensive retail plus multifamily
annual govt. rev: \$15,058
Daily trip generation: 1092

Study area VC2 same as VC1 with addition of lot to the east added APN: 061-430-180

land area: 36,290
assessed value land: \$263,420
imp: \$163,807
current annual govt. rev: \$20,922
Daily trip generation: 867

Alternative VC2-1

regular retail
max building area: 11,613 sq ft
max parking spaces: 70
annual govt rev: \$10,052
Daily trip generation: 592

Alternative VC2-2

intensive retail
annual govt. rev: \$12,584
Daily trip generation: 999

Alternative VC2-3

three story regular retail and multifamily

max building area retail: 14,516 sq ft
 res: 16,331 sq ft
dwelling units : 33
max parking spaces: 100
annual govt. rev: \$16,029
Daily trip generation: retail 740, residential 152; total 892

Alternative VC2-4

same w/intensive retail
annual govt rev: \$18,787
Daily trip generation: retail 1248, residential 152; total 1400

Study Area V D 1

Six lots between service station and liquor store between Glenwood Avenue and Encinal Avenue APN 61-422-380/390 + 350 + 230 + 240 + 20

land area: 112,500 sq ft.
assessed value land: \$868,631
 imp: \$334,958
Current annual govt. rev: \$11,451
Daily trip generation: 1087

Alternative VD1-1

regular retail
max building area: 36,000 sq ft
max parking spaces: 216
annual govt. rev: \$30,595
Daily trip generation: 1836

Alternative VD1-2

intensive retail
annual govt. rev: \$37,435
Daily trip generation: 3096

Alternative VD1-3

auto dealer
max building area: 22,500 sq ft
max parking spaces: 135
annual govt. rev: \$128,879
Daily trip generation: 1069

Alternative VD1-4

combined retail (25%), office (25%), multi family (50%)
max building area retail: 22,500
 office: 22,500
 multi-family: 50,625
dwelling units: 72
max parking spaces: 278
annual govt. rev: \$33,340
Daily trip generation: office 338, retail 1148, residential 475, total 1961

Study area VD2 same as VD1 with addition of two residential lots to the east (fronting on west side of San Antonio Street) APN 061-422-90/100

land area: 127,500 sq ft
assessed value land: \$925,364
 imp: \$377,865
current annual govt. rev: \$11,792
Daily trip generation: 1105

Alternative VD2-1

Same as VD1-4 (combined retail/office/multifamily) with additional land area (15,000 sq ft) from the two additional lots added to multifamily development only

max building area: retail: 22,500
 office: 22,500
 multi-family : 57,635
max dwelling units: 82
max parking spaces: 292
annual govt. rev: \$34,781
Daily trip generation: retail 1148, offices 338, residential 541; total 2027

VI General Area

West side El Camino Real between Menlo Avenue and Oak Grove Avenue

Street frontage: 850 ft
land area: 89,573 sq ft
current annual govt. rev: \$48,274
rev/front foot: \$57
rev/1000 sq ft: \$540

Study area VIA

Eight retail lots west side El Camino Real between Menlo Avenue and Santa Cruz Avenue APN 71-287-010-080

land area: 32,889 sq ft.
assessed value land: \$716,929
imp: \$477,860
current annual govt. rev: \$29,108
Daily trip generation: 2549

Alternative VIA-1

regular retail with no parking (in Parking District) 100% coverage of land area
max building area: 32,889 sq ft
max parking spaces: 0
annual govt. rev: \$27,078
Daily trip generation: 1677

Alternative VIA-2

same w/intensive retail
annual govt. rev: \$33,327
Daily trip generation: 2828

Alternative VIA-3

two story regular retail (50%) and office (50%) w/200% coverage and no parking
max building area: 65,778
max parking spaces: 0
annual govt. rev: \$31,038
Daily trip generation: retail 1677, office 493; total 2170

Alternative VIA-4

same w/intensive retail
annual govt rev: \$37,387
Daily trip generation: retail 2828, office 493; total 3321

Study area VIB

five retail lots west side El Camino Real between Santa Cruz Avenue and Oak Grove Avenue APN 071-102-120/390

land area: 56,684
assessed value land: \$669,375
imp: \$286,979
current annual govt. rev: \$19,166
Daily trip generation: 1554

Alternative VIB-1

regular retail with 100% coverage except for present 9,000 sq ft existing parking area

max building area: 47,615 sq ft
max parking spaces: 25 (on 9,000 sq ft lot)
annual govt. rev: \$38,988
Daily trip generation: 2428

Alternative VIB-2

same w/intensive retail
annual govt. rev: \$48,035
Daily trip generation: 4095

Alternative VIB-3

two story retail (50%)/office (50%) w/200% coverage except for existing parking lot

max building area: 95,230 sq ft
max parking space: 25 (existing lot)
annual govt rev: \$53,561
Daily trip generation: retail 2428, office 714; total 3142

Alternative VIB-4

same w/intensive retail
annual govt. rev: \$59,810
Daily trip generation: retail 4095, office 714; total 4809

Table #2

V.C. Annual Government Revenue Comparison

Study Area	Existing	Alternatives						
		1	2	3	4	5	6	7
IA	\$ 914	\$ 2,819	\$ 4,443	\$ 1,087	\$ 2,665			
1B	960	2,960	4,600	1,877	2,743			
IIA	2,323	329	2,629	4,182	1,919	\$ 2,695	\$ 1,494	
IIB	1,383	4,996	3,430	4,439	7,887			
IIC	790	1,377	2,081	854	1,494			
IID	239	638	473					
IIIA	4,167	3,469	4,208	808	1,273			
IIIB1	7,648	7,416	9,035	1,829	2,672			
IIIB2	18,148	9,251	11,308	2,360	3,478			
IIIC	1,762	4,045	4,952	1,067	1,589			
IIID	7,481	5,522	6,760	1,335	1,996			
IIIE	5,142	7,298	8,940	1,807	2,638			
IIIF	18,163	10,714	13,354	2,430	3,733			
IIIG	18,555	13,524	16,451	3,054	4,454			
IVA	10,960	8,124	9,932	13,009	10,220	12,028	14,676	\$17,280
IVB	3,426	7,621	9,327	12,205	9,621	11,327	12,737	15,266
VA1	2,468	3,852	4,680					
VA2	12,968	7,495	9,173					
VB1	2,887	6,232	7,629					
VB2	13,387	9,785	12,253					
VB3	15,926	13,293	16,168					
VC1	18,215	7,896	9,650	12,583	15,058			
VC2	20,922	10,052	12,584	16,029	18,787			
VD1	11,451	30,595	37,435	128,879	33,340			
VD2	11,792	34,781						
VIA	29,108	27,078	33,327	31,038	37,287			
VIB	19,166	38,988	48,035	53,561	59,810			

Analysis of Annual Government Revenue Alternatives

Estimated Annual Government Revenue for Study Areas

Existing uses	\$ 184,499	
From Lowest alternatives	153,815	
From Highest alternatives	379,000	with auto dealer
	287,656	without auto dealer

The types of alternative uses which produced the lowest estimate for annual governmental revenue were:

offices with surface parking
regular retail

The type of alternative uses which produced the highest estimates were:

intensive retail
office and/or retail combined with residential

V.D. Table #3
Daily Trip Generation Comparison

Study Area	Existing	Alternatives						
		1	2	3	4	5	6	7
1A	36	112	271	151	259			
1B	36	119	284	157	269			
IIA	62	N/A	106	253	140	239	52	
IIB	82	205	273	468	493			
IIC	50	53	132	75	128			
IID	16	27	31					
IIIA	122	199	335	69	119			
IIB1	688	434	733	152	260			
IIIB2	933	543	915	212	363			
IIIC	161	234	395	82	140			
IIID	465	323	544	112	192			
IIIE	365	427	721	149	255			
IIIF	1508	631	1063	220	377			
IIIG	1522	786	1325	274	469			
IVA	482	475	802	720	664	990	1027	1506
IVB	624	447	754	678	624	931	909	1321
VA1	232	222	375					
VA2	538	440	741					
VB1	401	364	614					
VB2	700	576	971					
VB3	1498	772	1301					
VC1	858	462	779	696	1092			
VC2	867	592	999	892	1400			
VD1	1087	1836	3096	1069	1961			
VD2	1105	2027						
VIA	2549	1677	2828	2170	3321			
VIB	1554	2428	4095	3142	4809			

Analysis of Daily Trip Generation Alternatives

Estimated Daily Trip Generation for Study Areas

Existing uses	13,067
From lowest alternatives	9,537 with auto dealer
	10,304 without auto dealer
From highest alternatives	23,194

The types of alternative uses which produced the lowest daily trip generations were:

- multifamily
- offices with surface parking
- regular retail

The types of alternative uses which produced the highest were:

- multifamily/office combinations
- office/retail combinations
- multi family/retail combinations
- intensive retail

Note: If it were necessary to reduce the daily trip generated by an office building with surface parking to the equivalent of a multifamily structure on the same land area, it would be necessary to reduce the allowable square footage of the office building by 26% which would also reduce government revenue by approximately 20%.

Summary
Menlo Park
V.E. Alternative Developments

Present Use	Alternative Uses	Maximum Building Areas				Adult Residence	Parking spaces	Daily trip generation	Annual Government Revenue	Land area sq ft
		Residential sq ft	Office sq ft	Retail sq ft	Dwelling Units					
IA Four single family houses					4	8		36	\$ 914	26,552
	IA-1 two story multi family	11,948			17	20	34	112	2,819	
	IA-2 Three story office and multifamily	11,948	10,621		17	20	58	271	4,443	
	IA-3 office with surface parking		10,090				40	151	1,087	
	IA-4 office with underground parking		17,259				69	259	2,665	
IB Four single family houses					4	8		36	960	27,583
	IB-1 two story multi family	12,412			18	22	36	119	2,926	
	IB-2 three story office and multi family	12,412	11,033		18	22	60	284	4,600	
	IB-3 office with surface parking		10,482				42	157	1,877	
	IB-4 office with underground parking		17,929				72	269	2,743	
IIA One single family and one multifamily					9	14	16	62	2,323	24,491
	IIA-1 parking lot							N/A	329	
	IIA-2 two story multi family	11,021			16	19	36	106	2,629	
	IIA-3 three story office and multifamily	11,021	9,796		16	19	56	253	4,182	
	IIA-4 office with surface parking		9,307				37	140	1,919	
	IIA-5 office with underground parking		15,919				64	239	2,695	
	IIA-6 keep existing 8 unit multi-family				8	12	16	52	1,494	

Present Use	Alternative Uses	Maximum Building Areas				Adult Residence	Parking spaces	Daily trip generation	Annual Government Revenue	Land area sq ft
		Residential sq ft	Office sq ft	Retail sq ft	Dwelling Units					
IIB 6 lots/1 vacant, 2 single family	3 office				2	4		82	\$1,383	47,952
	IIB-1 two story multi family	21,578			31	37	62	205	4,996	
	IIB-2 two story office surface parking		18,222				73	273	3,430	
	IIB-3 two story office underground parking		31,169				124	468	4,439	
	IIB-4 three story office with multi family	21,578	19,181		31	37	104	493	7,887	
IIC two office buildings								50	790	13,104
	IIC-1 two story multi family	5,897			8	10	16	53	1,377	
	IIC-2 three story office w/multi family	5,897	5,242		8	10	28	132	2,081	
	IIC-3 office with surface parking		4,980				20	75	854	
	IIC-4 office with underground parking		8,518				34	128	1,494	
IID Single lot with duplex					2	3		16	239	5,460
	IID-1 two story multi family	2,457			4	5	8	27	638	
	IID-2 office with surface parking		2,075				8	31	473	
IIIA two lots - motel and doctors office				7,412				122	4,167	12,173
	IIIA-1 regular retail			3,895			23	199	3,469	
	IIIA-2 intensive retail						23	335	4,208	
	IIIA-3 office with surface parking		4,626				19	69	808	
	IIIA-4 office with underground parking		7,912				32	119	1,273	
IIIB1 two retail lots				11,832				688	7,648	26,637
	IIIB1-1 regular retail			8,524			51	434	7,416	
	IIIB1-2 intensive retail							733	9,035	
	IIIB1-3 office with surface parking		10,122				40	152	1,829	

Present Use	Alternative Uses	Maximum Building Areas			Dwelling Units	Adult Residence	Parking spaces	Daily trip generation	Annual Government Revenue	Land area sq ft
		Residential sq ft	Office sq ft	Retail sq ft						
	IIIB1-4 office with underground parking		17,314				69	260	\$ 2,672	
IIIB2 two retail lots plus service station				12,592				933	18,148	37,267
	IIIB2-1 regular retail			10,645			64	543	9,251	
	IIIB2-2 intensive retail							915	11,308	
	IIIB2-3 offices with surface parking		14,161				57	212	2,360	
	IIIB2-4 office with underground parking		24,224				97	363	3,478	
IIIC three lots, two retail one single family				10,066				161	1,762	14,348
	IIIC-1 regular retail			4,591			27	234	4,045	
	IIIC-2 intensive retail							395	4,952	
	IIIC-3 office with surface parking		5,452				22	82	1,067	
	IIIC-4 office with underground parking		9,326				37	140	1,589	
IIID six retail lots				9,100				465	7,481	19,727
	IIID-1 regular retail			6,329			38	323	5,522	
	IIID-2 intensive retail							544	6,760	
	IIID-3 office with surface parking		7,496				30	112	1,335	
	IIID-4 office with underground parking		12,822				51	192	1,996	
IIIE two retail lots				3,784				365	5,142	26,190
	IIIE-1 regular retail			8,381			50	427	7,298	
	IIIE-2 intensive retail							721	8,930	
	IIIE-3 office with surface parking		9,952				40	149	1,807	
	IIIE-4 office with underground parking		17,024				68	255	2,638	
IIIF four retail lots plus theater				21,110				1508	18,163	38,651
	IIIF-1 regular retail			12,368			74	631	10,714	
	IIIF-2 intensive retail							1063	13,354	
	IIIF-3 office with surface parking		14,687				59	220	2,430	

Present Use	Alternative Uses	Maximum Building Areas					Adult Residence	Parking spaces	Daily trip generation	Annual Government Revenue	Land Area sq ft
		Residential sq ft	Office sq ft	Retail sq ft	Dwelling Units						
IIIG same as IIIF with 2 lots on Menlo Ave.	IIIF-4 office with underground parking		25,123					100	377	\$ 3,733	
									1,522	18,555	48,151
	IIIG-1 regular retail			15,408				92	786	13,524	
	IIIG-2 intensive retail								1,325	16,451	
	IIIG-3 office with surface parking		18,297					73	274	3,054	
IVA three retail lots plus multi family	IIIG-4 office with underground parking		31,298					125	469	4,454	
				11,232					452	10,960	29,154
	IVA-1 regular retail			9,329				56	475	8,124	
	IVA-2 intensive retail								802	9,932	
	IVA-3 three story retail plus multi family	13,119		11,662	19	23		88	720	13,009	
	IVA-4 two story office/reg retail, surface parking		12,536	9,329				50	664	10,220	
	IVA-5 same with intensive retail								990	12,028	
	IVA-6 same with regular retail underground parking		21,866	13,702				152	1,027	14,676	
	IVA-7 same with intensive retail								1,506	17,280	
				10,275					524	3,426	27,405
IVB three retail lots	IVB-1 regular retail			8,770				53	447	7,621	
	IVB-2 intensive retail								754	9,327	
	IVB-3 three story retail plus multi family	12,332		10,962	18	22		77	678	12,205	
	IVB-4 two story regular retail/office/surface parking		11,784	8,770				90	624	9,621	
	IVB-5 intensive retail								931	11,327	
VA1 two retail lots	IVB-6 same with regular retail underground parking		20,554	11,784				137	909	12,737	
	IVB-7 same/intensive retail								1,321	15,266	
				6,970					232	2,468	13,613
	VA1-1 regular retail			4,356				26	222	3,852	
	VA1-2 intensive retail								375	4,680	
VA2 same w/service station									538	12,968	26,935

Present Use	Alternative Uses	Maximum Building Areas				Adult Residence	Parking spaces	Daily trip Generation	Annual Government Revenue	Land Area sq ft
		Residential sq ft	Office sq ft	Retail sq ft	Dwelling Units					
VB1 two retail lots	VA2-1 regular retail			8,619			52	440	7,495	
	VA2-2 intensive retail							741	9,173	
				5,456				401	2,887	22,310
				7,139			43	364	6,232	
VB2 same w/service station	VB1-1 regular retail							614	7,629	
	VB1-2 intensive retail							700	13,387	35,282
	VB2-1 regular retail			11,290			66	576	9,785	
	VB2-2 intensive retail							971	12,253	
VB3 same as VB2 plus lot to east								1498	15,926	47,282
	VB3-1 regular retail			15,130			91	772	13,293	
	VB3-2 intensive retail							1301	16,168	
				8,104				858	18,215	28,290
VC1 two retail lots				9,053			54	462	7,895	
	VC1-1 regular retail							779	9,650	
	VC-2 intensive retail							696	12,583	
	VC-3 three story regular retail, multi family	12,730		11,316	18	22	78			
VC2 same as VC1 plus lot to east	VC-4 intensive retail							1092	15,058	
								867	20,922	36,290
	VC2-1 regular retail			11,613			70	592	10,052	
	VC2-2 intensive retail							999	12,584	
VD1 six retail lots	VC2-3 three story regular retail, multi family	16,331		14,516	23	28	100	892	16,029	
	VC2-4 intensive retail							1400	18,787	
				16,688				1087	11,451	112,500
				36,000			216	1836	30,595	
VD2 same with two residential lots to east	VD1-1 regular retail							3096	37,435	
	VD1-2 intensive retail							1069	128,879	
	VD1-3 auto dealer			22,500			135		33,340	
	VD1-4 25% retail, 25% office 50% multi family	50,625	22,500	22,500	72	86	278	1961		
VIA eight retail lots								1105	11,792	127,500
	VD2-1 same as VD1-4 w/ additional land multi-family	57,635	22,500	22500	82	98	292	2027	34,781	
				41,244				2549	29,108	32,889
				32,889				1677	27,078	
	VIA-1 regular retail w/ 100% coverage							2828	33,327	
	VIA-2 intensive retail									

Present Use	Alternative Uses	Maximum Building Areas			Dwelling Units	Adult Residence	Parking spaces	Daily trip generation	Annual Government Revenue	Land Area sq ft
		Residential sq ft	Office sq ft	Retail sq ft						
VIB five retail lots	VIA-3 two story, 50% regular retail, 50% office		32,889	32,889				2170	31,038	
	VIA-4 intensive retail							3321	37,287	
				32,104				1554	19,166	56,684
	VIB-1 regular retail w/ 84% coverage			47,615			25	2428	38,988	
	VIB-2 intensive retail							4095	48,035	
	VIB-3 two story, 50% regular retail, 50% office		47,615	47,615			25	3142	53,561	
	VIB-4 intensive retail							4809	59,810	

Menlo Park

Retail/
office/
multi-family

VD1-4
VD2-1

Technical Supplement

1-1 TAX YIELD FORMULAS USED IN THE STUDY

Estimating the taxes resulting from varying types of development is the heart of this study. While the formulas may be of little interest to the general public, they are vital to an understanding of the basis for the estimates. It should be explicitly noted that these formulas are ways of estimating the tax and fee revenues. Most of the taxes and fees paid by businesses are confidential and must remain so. However, careful review and analysis of data from several sources produces estimates that are conservative and realistic approximations of actual data. (The sources of data include governmental tax data summaries for Menlo Park and other communities, financial impact estimates from current Environmental Impact Reports, and published private sector gross sales data.) This method of estimating taxes and fees is aided greatly by the fact that the central task is to compare among alternatives. If all the alternatives are calculated on consistent data and assumptions, then the analysis can yield findings that are valid for comparison purposes. The basis for the assumptions and calculations are outlined below. All formulas estimate the revenue yield to the City per year.

Residential Development

A. Property Taxes

1. Estimate the market value of the dwelling unit
2. Multiply market value x .00122 = property tax yield to the city

(Note: In a designated redevelopment area the property tax yield for all types of land uses is calculated by multiplying the market value x .01 rather than .00122. This produces an eight times larger revenue yield)

B. Sales taxes

1. Estimate the number of adults in each dwelling unit
2. Multiply number of adults x \$4000/adult = total estimated sales purchases
3. Multiply total estimated sales x .01 = sales tax yield

C. Utility taxes

1. Multiply number of dwelling units x \$25/unit = utility tax yield

D. Motor Vehicle taxes

1. Multiply number of adults x \$17/adult = motor vehicle tax yield

E. Standards used:

- percentage of land covered, construction cost, land cost all included in single market value assumption at range of \$70,000 - \$130,000.
Units average 700 sqft in size reflecting current City Council policy for residences close to downtown
- assumed 1.2 adults for the small sized units

Office Development

A. Property tax

1. Estimate the total square feet in building and site
2. Multiply building square feet x estimated construction cost = building construction cost
3. Multiply square feet of site x estimated land cost = site cost
4. Add 3 + 4 = total property value
5. Multiply property value x .00122 = property tax to City

B. Sales tax

1. Estimate number of employees in building
2. Estimate taxable sales per employee
3. Multiply number of employees x sales per employee = total taxable sales
4. Multiply taxable sales x .01 = sales tax yield

C. Business Licenses

1. Estimate number of employees in building
2. Use table (attached) to determine business license fee based on number of employees

D. Utility taxes

1. Estimate the number of square feet in the building
2. Multiply square feet x .014 = utility tax yield

E. Standards used:

- Calculate size of building and coverage based on zoning ordinance (see Appendix 2)
- Estimate building construction cost at \$55/square foot
- Estimate one employee for each 333 square feet of building
- Estimate land cost at \$10 per square foot
- Assume each employee purchases \$1,000 in taxable sales per year

Retail Stores

A. Property taxes

Same procedure as office development

B. Sales tax

1. Estimate gross taxable sales per square foot

(use table in I-3)

2. Estimate number of square feet in building

3. Multiply number square feet x taxable sales/square foot =
total taxable sales

4. Multiply total taxable sales x .01 = sales tax yield

C. Business license fee

1. Estimate total taxable sales

2. Multiply taxable sales x 1.1 = total sales

(multiplication factor may be different for a few types of stores--
see table I-3)

3. Use table I-2 to calculate business license fee

D. Utility Taxes

Same procedure as office development

E. Standards used:

- Calculate size of building and coverage based on zoning ordinance
(see Appendix 2)
- Estimate building construction cost at \$55/square foot
- Estimate land cost at \$10/square foot

Hotels and Motels

A. Property tax

Same procedure as office development

B. Sales tax

Same procedure as office development. If there is a restaurant connected to the business, calculate at same rate as if restaurant were a separate operation.

C. Business license fee

1. Estimate total taxable sales
2. Use table 1-2 to calculate business license fee

D. Occupancy Tax

1. Multiply total number of rooms x rate factor = gross occupancy income.
2. Rate Factor:
High quality, \$1100/room
Good quality \$750/room
Moderate quality \$330/room
3. Multiply gross occupancy income x .06 = occupancy tax yield.

F. Standards:

E. Utility Taxes

Multiply number of rooms times occupancy factor times \$25 = utility taxes.

F. Standards:

- Calculate size of building and coverage based on zoning ordinance (see Appendix 2)
- Estimate building construction cost at \$55/square foot
- Estimate land cost at \$10/square foot

- Rate factors reflect the following assumptions for 6% occupancy tax

High quality \$66/room/night at 75% occupancy = \$1100/room/year

Good quality \$45/room/night at 75% occupancy = \$750/room/year

Moderate quality \$30/room/night at 50% occupancy = \$333/room/year

Tech. Appendix 1-2

Business License Fees

Business license tax

This tax is imposed on businesses for the privilege of conducting business within the City. This tax is most commonly based on gross receipts or on a flat rate. Our tax is gross receipts with certain administrative and warehousing activities based on number of employees.

Cities may levy this tax for both regulatory and revenue raising purposes. Menlo Park's tax is for revenue raising purposes only.

Business license tax assumption:

The gross receipts schedule is as follows:

Annual gross receipts		Annual
Over	But not over	License Fee
\$ 0	\$ 25,000	\$ 50.00
25,000	50,000	75.00
50,000	75,000	100.00
75,000	100,000	125.00
100,000	200,000	160.00
200,000	300,000	200.00
300,000	400,000	240.00
400,000	500,000	275.00
500,000	600,000	310.00
600,000	700,000	350.00
700,000	800,000	390.00
800,000	900,000	425.00
900,000	1,000,000	460 00
1,000,000	2,000,000	475.00

Taxpayers having gross receipts over \$2,000,000 shall be taxed \$750 plus \$250 for each million or portion thereof up to \$30,000,000. Taxpayers having gross receipts over \$30,000,000 shall be taxed at \$8,000 maximum.

For an administrative or warehouse function that has substantially all of its gross receipts attributable to business activities outside the City, the number of employees schedule applies as follows:

<u>Number of Employees</u>	<u>Tax</u>
1 - 5	\$ 50
6 - 15	200
15-25	350
26-50	500
51-75	650
76-100	800
101 - 150	950
151-200	1,100
201+	1,250

Tech. Appendix 1-3

Taxable Estimated Annual Taxable Sales per Square Foot for Retail Stores in Study

Store Type	Sales/sq. ft.
Apparel	
Children	\$ 107.4
Dance, exercise	107.4
Men's	130.0
Women's	
Discount	132.0
High quality	129.4
Shoes	130.0
Trendy	154.0
Resale Clothing	24.0
Auto	
Auto dealer	554.3
Auto parts	84.6
Auto repair	28.2
Car wash	10,500/establishment
Gas station	10,500/establishment
Building Materials	
Glass	116.2
Lumber	116.2
Plumbing	116.2
Eating and Drinking	
Catering	100.7
Coffee house	100.7
Coffee shop	100.7
Deli	100.7
Fast foods	201.5
Hamburgers	100.7
Ice cream	154.8
Large rest w/liquor	143.8
Nationality rest.	100.7
Food	
Bakery	51.4
Fish market	58.2
Supermarket	68.5
Liquor	176.8

Home Furnishings

Antiques	92.5
Bedspreads	92.5
Interior Design	92.5
Lighting Fixtures	92.5
Outdoor furniture	92.5
Rugs	103.6
Upholstery	92.5
Wallpaper	44.4

Other

Art frames	92.0
Art and gifts	47.8
Baseball cards	71.3
Bikes	92.0
Books	75.4
Clocks	92.0
Computers	100.3
Copy center	92.0
Florist	72.7
Gifts	71.8
Gifts, fancy	64.4
Hi fidelity equip.	112.2
Jewelry	155.5
Locksmith	307.3
Movie theater	29.4
Paint and wallpaper	92.5
Pet shop	68.0
Records	112.2
Vacuum sales	92.5
Video rental	97.0
Yardage	40.5

Services

Barber shop	22.8
Beauty shop	22.8
Photographer	2.3
Shoe repair	22.8
Tailor	43.0

Combinations of stores

Intensive retail

High quality boutiques (e.g. Victoria Lane)	89.0
Hi volume off price (e.g. Menlo Station)	112.0

Regular retail mix* 70.4
(e.g. typical El Camino Real frontage)

*includes 20% non-retail uses

Note: To calculate estimated gross sales for business license fee, assume 90% of total sales are taxable except for the following type stores:

	Estimated percent of sales that are taxable	Factor to multiply taxable sales by to get estimated total sales for business license fee.
Auto dealer	80%	1.25
Supermarket	25%	3.0
Beauty Shop	10%	10.0
Barber Shop	10%	10.0
Shoe Repair	10%	10.0
Tailor	33%	2.0
Photographer	5%	20.0

Basis for estimating development potential for each site.

In order to understand the implications of various alternatives it was necessary to estimate building and parking standards which would apply to future rebuilding. The standards assumed under the various alternatives are outlined below:

A. Retail (Based on C-4 zoning)

No minimum lot size

Building coverage:

With underground parking use	.47 FAR
With surface parking use	.32 FAR

Parking

One parking space (350 sq. ft.) for each 167 sq. ft. of retail space

Note: For C-3 zoning 2.0 FAR is allowed if the site is in parking district.

B. Auto Dealers (Based on C-4 zoning)

Minimum parcel size (not based on zoning requirements) assume 50,000 sq ft

Building coverage

Use .20 FAR

Parking:

One parking space for each 167 sq. ft. of building

C. Offices (Based on C-1-A zoning)

Minimum lot size: 10,000 sq. ft.

Building coverage:

with underground parking use	.65 FAR
with surface parking use	.38 FAR

Parking:

One parking space required for each 250 sq. ft. of building

D. Multiple Residential (Based on R-3 zoning)

Minimum lot size: 7,000 sq. ft.

Building coverage:

For one story use	.30 FAR
For two story use	.45 FAR

Number of dwelling units: Assume average size of 700 sq. ft. per dwelling unit

Parking:

Two parking spaces required for each dwelling unit
(One of the two spaces must be covered)

E. Mixed use (Based on R-C zoning and standards approved for Oak Grove project)

1. Office-residential project

Building coverage:

Office use	.40 FAR
Residential use	.45 FAR

Size of dwelling units: Assume average 700 sq. ft. per dwelling unit

Parking:

One parking space required for each 250 sq ft of office space
No additional spaces required for residential units
One parking space to be reserved for each dwelling unit
No office allowed to be open regularly after 7 p.m.

2. Retail-residential project

Building coverage:

Retail use	.40 FAR
Residential use:	.45 FAR

Size of dwelling units: Assume average 700 sq ft per dwelling unit

Parking:

One parking space required for each 167 sq ft of retail space
No additional residential parking spaces required
One parking space to be reserved for each dwelling unit
No store allowed to open regular hours after 7 p.m.

3. Retail-office project

Building coverage:

Permit .15 FAR in addition to maximum allowed
The effect would be to allow a total .60 FAR to be built
Space would be divided between the office and retail uses.

Parking:

Parking requirements would be reduced 10% to account for dual use.

F. Reduce office development to equivalent trip generation as from multiple residential

Building coverage:

The effect would be to reduce the office coverage allowed by 25%,
from:

.65 FAR to .48 FAR with underground parking
.38 FAR to .28 FAR with surface parking

Parking:

One parking space for each 250 sq ft of office space

Appendix 3
TRIP GENERATION RATES

Land use	Daily	Weekday Peak Hours					
		Morning		Midday		Afternoon	
		In	Out	In	Out	In	Out
Residential (per dwelling unit)							
Single family	9.0	0.21	0.55	0.25	0.25	0.63	0.37
Duplex	8.0	.14	.47	.20	.20	.50	.30
Condo/apartment	6.6	.10	.40	.17	.17	.44	.22
Office (per 1000 gsf)							
Professional	15	1.5	0.4	0.8	0.8	0.5	2.6
Medical	43	---	---	2.1	2.1	3.0	3.0
Retail (per 1000 gsf)							
Lumber/home improv.	36	---	---	1.8	1.8	1.5	1.5
Small store - avg.	51	0.6	0.6	3.0	3.0	2.6	2.6
(includes pets, meats, books, interiors, etc.)							
neighborhood shopping center	86	---	---	4.3	4.3	4.7	4.7
(includes supermarket, discount drug, retail complex, etc.)							
24 hour specialty	330	12	12	10	10	16	16
Restaurants (per 1000 gsf)							
quality	85	---	---	9.0	8.0	4.0	3.0
coffee shop-24 hour	112	4.0	4.0	10.5	5.5	9.9	4.0
fast food	550	---	---	44	44	17	15
Banks (per 1000 gsf)	148	---	---	10	10	4.0	7.0
Auto sales (per 1000 gsf)	48	2.1	2.9	1.8	1.8	2.0	2.6
Motels (per 1000 gsf)	10	---	---	0.5	0.5	0.4	0.4
Movie theater (per 1000 gsf)							
(evening shows only)	100	---	---	1.0	1.0	1.0	1.0
Service station (per acre)	995	---	---	44	44	59	59
Car wash (per acre)	661	---	---	36	36	33	33

Sources: Caltrans, District 4, 15 Progress Report on trip Generation Research Counts, December, 1983.

Institute of Transportation Engineers, Trip Generation, Third Edition, 1982.

LEVEL OF SERVICE AT SIGNALIZED INTERSECTIONS

Intersection operations are graded in terms of letter grades "A" through "F" based on the amount of delay experienced by the average motorist passing through the intersection. Level of Service "D" represents the greatest delay generally felt to be acceptable to the average motorist and is therefore often set as a peak hour policy design standard by local jurisdictions. The maximum capacity of an intersection occurs at Level of Service "E". While service levels are most accurately measured by the delay experienced by the average motorist, they can be approximated in terms of the sum of critical traffic volumes compared to the capacity of the intersection. This latter factor is stated as the volume to capacity ratio (V/C). Service levels are described below by both delay and V/C ratio.

Level of Service	Description	Average Delay (sec per veh)	V/C Ratio
A	The intersection appears open and turning movements are made easily. Delay is minimal and the operation of the intersection can be characterized as excellent.	Less than 16.0	Less than 0.60
B	The intersection is occasionally fully utilized and short delays occur. Drivers begin to feel some restrictions. The operation of the intersection is very good.	16.1 to 22.0	0.61 to 0.70
C	The intersection is often fully utilized and drivers feel somewhat restricted, but not objectionably so. The operation of the intersection can be described as good.	22.1 to 28.0	0.71 to 0.80
D.	The intersection operates with considerable restriction and delay for motorists. Some drivers have to wait for more than one red signal indication but gaps in demand allow queues to periodically clear. The operation of the intersection can be described as fair.	28.1 to 35.0	0.81 to 0.90
E	The intersection is at maximum capacity. Most drivers experience excessive delay and have to wait through more than one signal cycle. The operation of the intersection can be described as poor.	35.1 to 40.0	0.91 to 1.00
F	The intersection is jammed. Excessive traffic demand causes inefficient operation and the number of vehicles clearing the intersection is less than occurs at maximum capacity. The operation of the intersection can be described as a total breakdown.	More than 40.1	Varies

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